

Specification for the Subject Book

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|---|---|--|---|----------------------|
| Curriculum | | Technology Engineering | | |
| Optional field (module) | | | | |
| Type and level of studies | | Master of Professional Studies, second degree studies | | |
| Subject | | Risk assessment for human health and the environment | | |
| Teacher (lectures) | | dr Ljiljana M. Djordjevic | | |
| Teacher / Associate (exercises) | | dr Ljiljana M. Djordjevic | | |
| Teacher / Associate (for OTC) | | | | |
| ECTS credits | | 8 | Subject status (compulsory / optional) | Compulsory |
| Conditions | None | | | |
| Subject objectives | To provide basic skills in ESTIMATING HUMAN HEALTH AND ENVIRONMENT RISKS. To enable students to independently plan and perform risk estimation procedures, to estimate the meaning of the results and express critical awareness of the importance of risk estimation and its limitations. To enable | | | |
| Learning outcomes | Master students will develop comprehensive knowledge and critical awareness of significant areas of risk assessment and be appropriately prepared for contemporary professional practice or further training. As a result, the student will demonstrate: - Systematic and general understanding of key concepts of HUMAN HEALTH AND ENVIRONMENTAL RISK ASSESSMENT; | | | |
| Subject contents | | | | |
| Theory classes | Basic Definitions and Data Sources. Basic Concepts in Toxicology. Dose Response, Toxicological Reference Values. Risk Ratio, Likelihood ratio, Cohort, Case Control, Risk Matrix. USEPA (United States Environmental Protection Agency) - Risk Assessment. Human Health Risk Assessment - Exposure Assessment; Exposure Quantification; Toxicity Assessment; Risk Characterization. Human Health Risk Assessment II - EEA Model (DNEL, DMEL). Chemical agents. Biological Agents and Physical Agents. Tier Approach, Conceptual Model, CLEA. Environmental Risk Assessment I - EEA Model. Environmental Risk Assessment II - USEPA Model. EEA - REACH (Registration, Evaluation, Authorization and Restriction of Chemicals). Environmental legislation and guidelines. | | | |
| Practice classes (exercises, OTC, study research work) | Theme 1: Preparation of PPT presentation for work in the field of application of methodology for human health or environmental risk assessment (activities during risk analysis and assessment: impact assessment, exposure assessment of risk characterization). Topic 2: Health risk in the function of pollution. Theme 3: Ecotoxicological risk in the function of pollution. Topic 4: Calculation of non-cancerous risk based on input data provided. Topic 5: Carcinogenic risk calculation based on input data provided. Topic 6: Study of a specific problem (for example: Lead and Zinc Mine Grot, Bor Copper Mine, Pancevo Oil Refinery, ...). | | | |
| Literature | | | | |
| 1 | USEPA, (1998), Guidelines for Ecological Risk Assessment, US Environmental protection Agency, | | | |
| 2 | USEPA, (1989), Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual | | | |
| 3 | EC, (2003), Technical Guidance Document on Risk Assessment - Part 1: Risk Assessment for Human | | | |
| 4 | EC, (2003), Technical Guidance Document on Risk Assessment - Part 2: Environmental Risk | | | |
| 5 | Potential health risk assessment for soil heavy metal contamination in the central zone of Belgrade (Serbia), Journal of Serbian | | | |
| 6 | I.Gržetić, (2001): Rizik i njegova procena, Inpharm, Vol. 5/17, 15-19. | | | |
| Lectures | Exercises | OTC | Study research | Other classes |
| 45 | 45 | 0 | - | - |
| Teaching methods | Audio-visual lectures and exercises, consultations, independent research work. | | | |
| Knowledge score (maximum points 100) | | | | |
| Pre-exam responsibilities | points | Final exam | | points |
| Class activity | 15 | written exam | | |
| practical teaching | 15 | oral exam | | 40 |
| colloquiums | 20+20 | | | |
| seminars | | | | |